RECEIVED
CENTRAL FAX CENTER

MAY 0 2 2006

PATENT
Atty. Dkt. No. WEAT/0555

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Alan D. Kersey, et al.

Serial No.: 10/756,183

Confirmation No.: 2079

Filed: January 13, 2004

For: SENSING DEVICE HAVING A LARGE DIAMETER D-SHAPED OPTICAL WAVEGUIDE

§

Group Art Unit: 2874

Examiner: Jerry M. Blevins

Customer No. 36,735

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office on 2 May 2006.

Signature

William B. Patterson
Typed or Printed Name

34,102 (713) 623-4844
Registration No., if applicable Telephone Number

Dear Sir:

REMARKS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

In conjunction with the Notice of Appeal filed herewith, Applicants request a Panel review of the Final Rejection in this matter. Although the remarks herein are focused on specific issues raised by the rejection, nothing in this paper is meant to limit the scope of any arguments, either factual or legal, that Applicants may later present in a full appeal brief.

QUESTION FOR REVIEW

Applicants request a pre-appeal brief conference review to address the factual deficiency in making the anticipation and obviousness rejections. In a Final Office Action dated February 2, 2006, the Examiner finally rejected all pending claims under § 102(b) or § 103(a). Applicants respectfully submit that the Examiner has failed to properly establish the essential elements needed for a *prima facie* rejection due to clear errors in the Examiner's rejections.

REMARKS

I. Claim 8 is not anticipated by *Beasley* (U.S. Patent No. 4,387,954) and is allowable.

Claim 8 stands rejected under 35 U.S.C. §102(b) as being anticipated by *Beasley*. However, *Beasley* fails to disclose each and every element as set forth in claim 8.

Claim 8 recites that "an optical sensor for sensing a measurand" includes a "layer capable of changing thickness in response to the measurand, wherein the measurand includes at least one member of the group consisting of heat, humidity, light, electric field, magnetic field and chemicals." The Examiner states in the Final Office Action that *Beasley* "teaches that the measurand includes light." However, light does not induce a change in thickness of an interleaved film disclosed in *Beasley* between two fiber optic waveguide cores. Rather, the interleaved film disclosed in *Beasley* has a thickness dependent on pressure and hence not "in response to" light. To the contrary, a light signal detected with a pressure sensing device disclosed in *Beasley* changes as a result of the pressure, which is the measurand in the *Beasley* reference. Any functional relationship between light and pressure with the pressure sensing device disclosed in *Beasley* does not impart to the light the claimed relationship of thickness changing in response to the light.

In fact, the Examiner states in the Advisory Action "that *Beasley* teaches a layer which changes thickness... which itself arises due to a change in pressure." A response is some form of reply, answer or reaction to some type of stimulus or input

(*e.g.*, "the measurand"). A change in evanescent wave coupling (light) occurs after or as a result of the change in thickness. The change in thickness thus cannot be in response to measuring of this change in evanescent wave coupling.

Therefore, *Beasley* fails to teach, show or suggest each and every limitation of claim 8. Applicants submit that claim 8 and all claims dependent thereon are allowable. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

II. Claim 1, 3, 6, 9, 12-14, 16, 17, 19 and 20 are not obvious in view of *Beasley, Bergh* (U.S. Patent No. 4,386,822), and/or *Bailey, et al.* (U.S. Publication No. 2002/0197037) and are allowable.

Claims 1, 3, 9, 12-14, 16 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Beasley* in view of *Bergh*. However, the prior art references when combined fail to teach or suggest all the claim limitations.

Claim 1 recites "an optical sensor for sensing a measurand" that includes "a layer disposed on a flat surface of the D-shaped portion, wherein a refractive index of the layer changes in response to a change in the measurand." In the Final Office Action, the Examiner states that "*Beasley* does not teach that the refractive index of the layer changes in response to a change in the measurand." Additionally, the Examiner states in the Final Office Action that *Bergh* "teaches a refractive index change in response to a change in a measurand (polarization of light)." However, a change in polarization of light does not induce a change in refractive index of a polarizer disclosed in *Bergh.* Rather, the polarizer disclosed in *Bergh* utilizes a crystal that is properly selected and oriented such that light of one polarization can be retained within a fiber while light of a second polarization is removed. *See*, column 2, lines 44-47. Accordingly, the crystal can have multiple refractive indices and be oriented to adjust the lossiness of one polarization without affecting the other. *See*, column 3, lines 3-13. In other words, the refractive index of the crystal in *Bergh* does not change in response to a change in the polarization of light.

Furthermore, the polarizer taught in *Bergh* does not form a sensor responsive to any parameter. The Examiner states in the Advisory Action "that the refractive index of

the crystal taught by *Bergh* is selected (emphasis added) based on a selection (emphasis added) of polarization of light." As previously discussed regarding claim 1, a response is some form of reply, answer or reaction to some type of stimulus or input (*e.g.*, "the measurand"). Therefore, this pre-selection of the crystal with its refractive index does not change any refractive index but rather provides the desired polarization of light output from the polarizer after the crystal is selected.

Therefore, *Beasley* in view of *Bergh* fails to teach, show or suggest each and every limitation in claim 1. Applicants submit that claim 1 is not obvious and that claim 1 and all claims dependent thereon are allowable. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of claims 1 and 3.

Applicants submit that claim 9 is patentable based at least on the traversal presented above regarding claim 8, which claim 9 depends from. *Bergh* fails to overcome the deficiencies in *Beasley* as discussed herein. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of this claim.

Claim 12 recites a method of detecting a parameter including the limitation that "a strain applied to the D-shaped portion provides a change in a polarization of the light transmitted through the optical sensor in response to the parameter." The Examiner states that "*Beasley* does not teach that the strain applied to the sensor changes a polarization of the light." Additionally, the Examiner states that *Bergh* "teaches a change in polarization in response to a parameter." However, a polarizer disclosed in *Bergh* does not provide any responsive type of change in polarization as previously discussed regarding claim 1. Rather, the polarizer disclosed in *Bergh* as previously described utilizes a crystal that is properly selected and oriented such that light of one polarization can be retained within a fiber while light of a second polarization is removed. In other words, the polarization of light transmitted through the polarizer in *Bergh* does not change in response to any parameter.

Therefore, *Beasley* in view of *Bergh* fails to teach, show or suggest each and every limitation in claim 12. Applicants submit that claim 12 is not obvious and that claim 12 and all claims dependent thereon are allowable. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of claims 12-14, 16 and 19.

Claims 6, 17, and 20 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Beasley* in view of *Bergh* as applied to claims 1, 12, and 19 above, and further in view of US Pre Grant Publication to *Bailey et al.*, number *2002/0197037.* Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over *Beasley* in view of *Bailey.* In response, Applicants submit that these claims are patentable based at least on the traversal presented above the independent claims from which claims 6, 11, 17 and 20 depend. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

Conclusion

Applicants believe that the foregoing discussion demonstrates the patentability of the present claims over the cited references. Accordingly, Applicants request that the Panel vacate the rejections and remand the matter to the Examiner with instructions to allow the present claims.

Respectfully submitted,

William B. Patterson
Registration No. 34,102
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicants

RECEIVED
CENTRAL FAX CENTER
MAY 0 2 2006

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)
WEAT/0555

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office, (571) 273-8300, on May 2, 2006.

Signature

William B. Patterson
Typed or Printed Name

34,102 (713) 623-4844
Registration No., if applicable Telephone Number

Application Number	Filed
10/756,183	January 13, 2004

First Named Inventor
Alan D. Kersey, et al

Art Unit	Examiner
2874	Jerry M. Blevins

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest.
  See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
  (Form PTO/SB/96)
- ☒ attorney or agent of record.
  Registration number 34,102
- ☐ attorney or agent acting under 37 CFR 1.34.
  Registration number

Signature

William B. Patterson
Typed or Printed Name

713/623-4844
Telephone

May 2, 2006
Date

☐ *Total of ____ forms are submitted.

462907_1